

CLAIMS:

1. Data retrieval apparatus for retrieving data stored on an information record medium having a plurality of record layers, the apparatus comprising means for irradiating a first record layer with electromagnetic radiation, a detector for receiving an electromagnetic radiation beam reflected back from said information record medium and for retrieving said data therefrom, said radiation beam comprising radiation reflected back from said first layer and radiation reflected back from one or more of the other layers of the information record medium, the apparatus further comprising spatial filter means arranged and configured to spatially filter said radiation beam so as to cause the radiation reflected by said first record layer and said radiation reflected by any of the other record layers of the information record medium to be spatially separated, and means for selectively eliminating at least a substantial portion of said radiation reflected back from said other record layers from said radiation beam prior to retrieval therefrom of said data.
- 15 2. Apparatus according to claim 1, wherein said spatial filter means includes an optical element arranged and configured to converge the radiation reflected by the first record layer to a first image point and the radiation reflected back from the one or more record layers to one or more respective second image points, different from said first image point.
- 20 3. Apparatus according to claim 2, wherein said optical element comprises a lens.
4. Apparatus according to claim 2 or claim 3, further comprising obstruction means located in the radiation transmission path between the spatial filter means and the detector.
- 25 5. Apparatus according to claim 4, wherein said obstruction means comprises a screen having an aperture therein, the screen being located such that the aperture is at or adjacent to the first image point, such that the radiation reflected back from the first record layer is permitted to pass through the aperture to the detector and at least a

substantial portion of the radiation reflected back to the one or other record layers is prevented from being transmitted to the detector by the screen.

6. Apparatus according to claim 4, wherein said obstruction means is located at or adjacent to the or each second image point such that radiation reflected back from the respective one or more other record layers is prevented from being transmitted to the detector, whereas the radiation reflected back from the first record layer is permitted to be transmitted to the detector.
- 10 7. Apparatus according to any one of claims 1 to 3, wherein said detector is divided into at least two segments, and arranged and configured such that a main portion of the spatially filtered radiation beam consisting of radiation reflected back from the first record layer is incident only on a first segment of the detector, and another portion of the spatially filtered radiation beam consisting of radiation reflected back from the one or more other record layers is incident on at least the first and a second segment of the detector.
- 15 8. Apparatus according to claim 7, wherein a substantial portion of the radiation reflected back from the other record layers is eliminated by calculating a first radiation intensity signal in respect of the first segment and a second intensity signal in respect of the second segment, and subtracting the second intensity signal from the first intensity signal.
- 20 9. Apparatus according to any one of claims 2 to 8, further comprising a collimator element in the radiation transmission path between the first image point and the detector for collimating the radiation beam prior to transmission thereof to the detector.
- 25 10. A method of retrieving data stored on an information record medium having a plurality of record layers, the method comprising irradiating a first record layer with electromagnetic radiation, receiving an electromagnetic radiation beam reflected back from said information record medium and retrieving said data therefrom, said radiation beam comprising radiation reflected back from said first layer and radiation reflected back from one or more of the other layers of the information record medium,

the method further comprising spatially filtering said radiation beam so as to cause the radiation reflected by said first record layer and said radiation reflected by any of the other record layers of the information record medium to be spatially separated, and selectively eliminating at least a substantial portion of said radiation reflected back from said other record layers from said radiation beam prior to retrieval therefrom of said data.